

*MATULEWICZ, STANISLAW*

WICZYK, Stanislaw; WOJDAT, Wacław; MATULEWICZ, Stanislaw

Docker's lumbar region of spine. Bull. Inst. Marine M. Gdansk 9 no.1-2:  
65-75 1958.

1. (From the Institute of Marine Medicine in Gdansk and of the Radiology  
Department of Medical Academy in Gdansk)

(BACKACHE,

analysis in dock workers & stevedores)

(SPINE, diseases

analysis of lumbar disord. in dock workers & stevedores)

MATULEWICZ, S.

Radiological picture of staphylococcal pneumonia in children. Polski  
przeegl. radiol. 22 no.4:203-210 July-Aug 58.

1. Z Zakładu Radiologii A. M. w Gdanskim Kierownik: prof. dr med. W.  
Grabowski.

(MICROCOCCAL INFECTIONS, in inf. & child  
pneumonia, x-ray diag. (Pol))

(PNEUMONIA, in inf. & child  
micrococcal, x-ray diag. (Pol))

MATULEWICZ , Stanislaw

Atypical cases of spinal tuberculosis. Polski przegl.radiol. 24  
no.2:81-96 Mr-Apr '60.

1. Z Zakladu Radiologii A.M. w Gdansk. Dyrektor: prof.dr W. Grabowski i z Zakladu Radiologii Kliniki Neurochirurgicznej A.M. w Krakowie. Kierownik Zakladu Radiologii: prof.dr S. Spettowa. Kierownik Kliniki Neurochirurgicznej: prof.dr A. Kunicki.  
(TUBERCULOSIS SPINAL radiogr.)

ADAMCZYK, Roman; CZOFIK, J.; GRZBIELA, J.; HRECZECHA, M.; GREGORCZYK, K.;  
MATULEWICZ, S.

Angiography of the coronary arteries. Pol. przegl. radiol. 29  
no.4:401-407 J1-Ag '65.

1. Z II Kliniki Chirurgicznej Slaskiej AM (Kierownik: prof. dr.  
J. Gasinski), z Zakladu Radiologii Slaskiej AM (Kierownik: doc.  
dr. med. B. Romanowski) i z Kliniki Chorob Wewnetrznych Slaskiej  
AM (Kierownik: prof. dr. med. J. Japa).

MAJULIK, Z.

Experiences in transporting fired roof tiles in special containers. p. 67.

Vol. 4, no. 2, Feb. 1956  
POZEMNI STAVBY  
Praha, Czechoslovakia

Source: East European Accession List. Library of Congress  
Vol. 5, No. 8, August 1956

COUNTRY : USSR K  
CATEGORY : Forestry. Forest Management.  
ABST. JOUR. : Ref Zhur-Biologiya, No.1, 1959, No. 1450  
AUTHOR : Matulionis, A.A.  
INST. :  
TITLE : Development of the Lithuanian SSR's Forest  
Economy in the Years of Soviet Power.  
  
ORIG. PUB. : Masu Girios, 1957, No.5, 3-10  
  
ABSTRACT : Statistical data are cited on the forests of  
the Lithuanian SSR, which are characterized  
in the scope of forestry and timber exploita-  
tion measures. Problems of training forestry  
personnel and publishing special literature  
are touched upon.

CARD: 1,1

MATULIONIS, A. A

Organizational measures for carrying out the tasks of the Seven-Year Plan. p.1

MUSU GIRIOS. (Misku ukio ir misko pramonės ministerija ir Gėmtos apsaugos komitetas prie Ministrų tarybos)  
Vol. 8, Aug. 1959  
Vilnius, Poland

Monthly List of East European Accession (EEAI) LC, Vol. 9, no.1, Jan. 1960

Uncl.

L 46302-66 EWP(m)/EWP(k)/EWT(d)/EWT(1)/EWT(m)/EWP(w)/EWP(v) TJP(c) RM/NW

ACC NR: AT6023216

SOURCE CODE: UR/2910/65/005/003/0289/0298

AUTHOR: Matulis, A. Yu. -- Matulis, A.; Nashlenas, E. P. -- Naslenas, E.; Bandzaitis, A. A. -- Bandzaitis, A. 26  
19

ORG: Institute of Physics and Mathematics, Academy of Sciences Lithuanian SSR (Institut fiziki i matematiki Akademii nauk Litovskoy SSR); Vil'nyus State University im. V. Kapsukas (Vil'nyusskiy Gosudarstvennyy universitet) 26

TITLE: On the perturbation theory of the energy of atoms with open shells 26

SOURCE: AN LitSSR. Litovskiy fizicheskij sbornik. v. 5, no. 3. 1965, 289-298

TOPIC TAGS: atomic theory, perturbation theory, nuclear shell model

ABSTRACT: The energy of a degenerate atomic level as the pole of Green's function of open electron shells is studied. The perturbation theory of the energy of degenerate atomic levels leads to solving the secular equation in the space of unperturbed atomic states. This secular equation is solved by employing the theory of angular momentum of the case of electrostatic interaction between electrons. The contributions of the Feynman diagram are expressed in terms of radial integrals and the transformation matrices. The specific definition of the series for atomic energy in the field form of the perturbation theory for the energy of an atomic system

Card 1/2



L 46302-66

ACC NR: AT6023216

with open electron shells and the representation of each order of this series as an average with respect to the eigenstate of the total orbital and spin angular momenta are the main results of the study. This representation of the series permits restoring the physical sense of each Feynman diagram as the representation of a certain process during the course of which the total orbital and spin angular momenta are retained. In the proposed method there was no requirement to separate the total Hamiltonian into a zero Hamiltonian and interaction Hamiltonian. The only demand made was the retention of the single-particle character of the zero Hamiltonian which is necessary for shifting to the representation of second quantization. Thus, in each specific calculation of the energy of the atomic system it was possible to add to the zero Hamiltonian a certain single-particle operator, subtraction of which from the interaction Hamiltonian improved the convergence of the series of the perturbation theory. The author thanks Prof. A. P. Yutsis for his attention to the work and valuable advice. Orig. art. has: 9 figures and 21 formulas.

SUB CODE: 20/ SUBM DATE: 23Jan65/ ORIG REF: 003/ OTH REF: 005

Card 2/2

MATULIS, A. A., Cand Med Sci (diss) -- "The dynamics of certain immunological reactions in rheumatism". Vil'nyus, 1960. 20 pp (Acad Sci Lith SSR, Inst of Experimental Med), 350 copies (KL, No 11, 1960, 138)

2/089/63/014/004/002/019  
6066/1126

**AUTHORS:** Brevnov, N.N., Novik, A.I.

**TITLE:** The passage of a plasmod through an adiabatic trap with magnetic field

**PERIODICAL:** Atomnaya energiya, v. 14, no. 4, 1969, 354 - 358

**TEXT:** The behavior of a plasmod was studied as it passed through an adiabatic trap of the "Orphee" type [N.N. Brevnov et al., Atomnaya energiya, v. 13, no. 4, 421 (1962)] along its axis. The plasmod was obtained by means of a coaxial plasma injector [J. Marshall, Phys. Fluids, 3, 13 (1960)]. A time of 400  $\mu$ sec elapsed between the application of voltage to the injector electrodes and the opening of the valves. Hydrogen was injected in a quantity of 45  $\mu$ g. The injector supplied two successive plasmods with velocities of  $1.7 \cdot 10^6$  and  $2 \cdot 10^6$  m/sec. The residual gas in the trap chamber had an initial pressure of  $10^{-6}$  mm Hg. The variations in the plasmod dimensions, the velocities of the plasmods in the magnetic field, and the energy density were studied from pictures of an OZP (OZP) high-speed camera using magnetic probes and calorimeters equipped

Page 1/2

The passage of a plasmoid through an . . .

8/089/63/014/004/002/019  
A066/A126

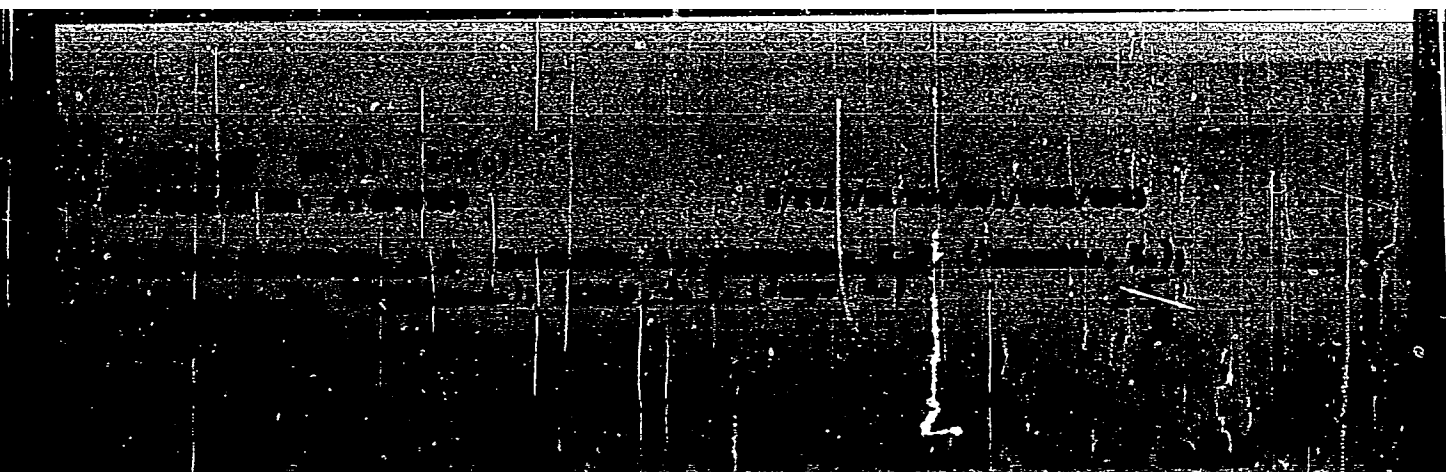
with sensitive thermocouples. The first plasmoid traversed the 350 cm long trap within 90  $\mu$ sec. The jets formed by division of the plasmoids and glowed 700  $\mu$  sec in the trap. The development of the jets is attributed to instabilities peculiar to plasma bordering on a magnetic field with curved lines of force. There are 8 figures.

RECEIVED July 27, 1962

Cont 2/2

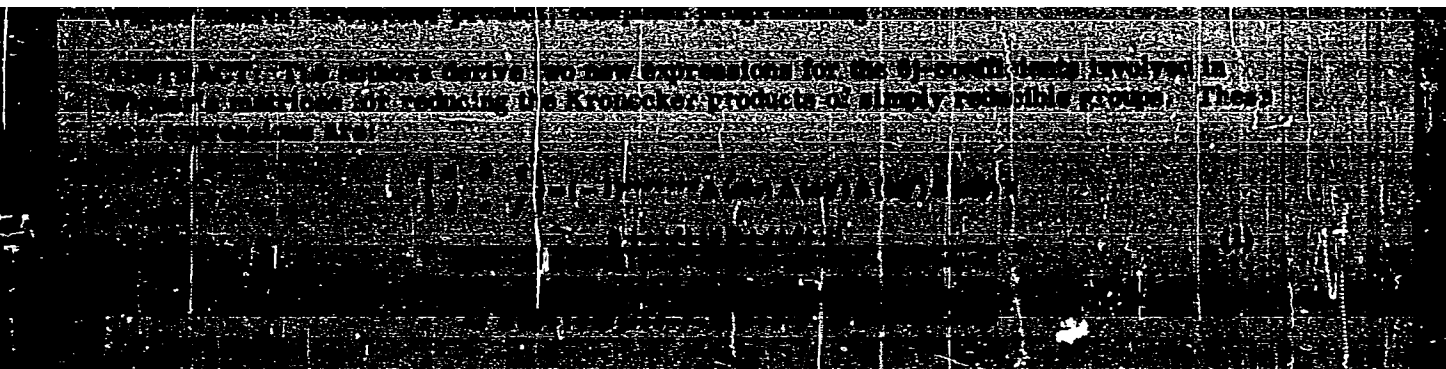
"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2



APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2"



"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2



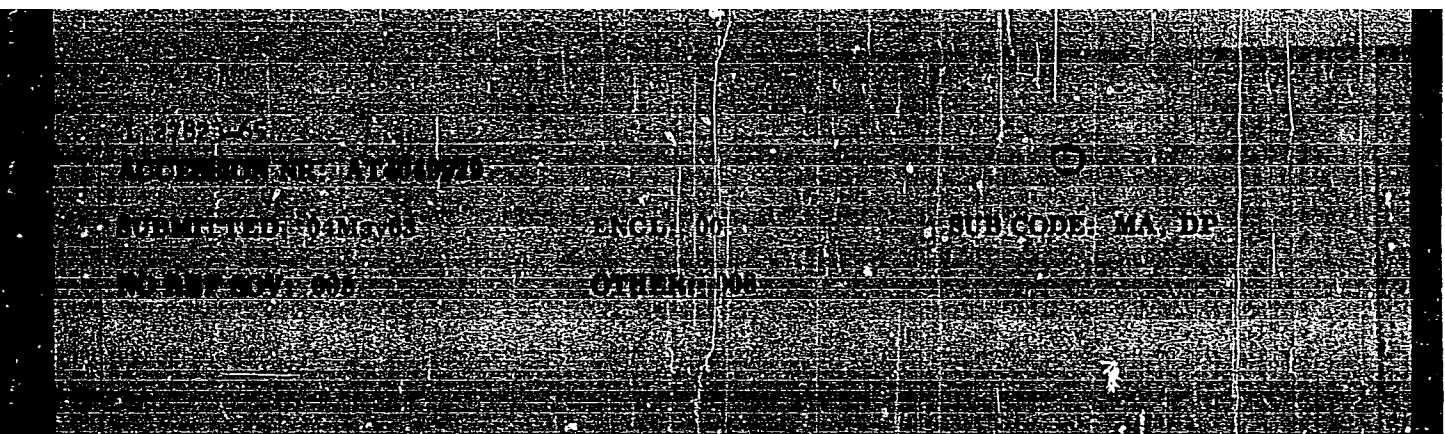
APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2"

These formulas were derived by the method proposed by Wigner. These formulas are transformed in the same way as the Racah formula has been transformed by Sato. The authors propose to represent the 6j-coefficients by means of seven parameters (perimeters of four triangles and of 3 quadrilaterals). A program for the calculation of 6j-coefficients on the BESM-2M computer is described. Orig. art. has: 31 formulas.

ASSOCIATION: Matematika i matematika. Akademii nauk Lit'skoy SSR (Institute of Physics and Mathematics, Academy of Sciences of the Lithuanian SSR), Vil'nyuskiy Gosudarstvennyy universitet im. V. Kapuskas (Vilnius State University)





**MATULIS, B. YU.**

Cand Tec Sci, Diss -- "On the effect of the form of silica on physico-chemical processes in hydrothermal conditions". Kaunas, 1961. 22 pp with graphics, 21 cm (State Committee on Higher and Inter Spec Educ of the Council of Min LitovSSR. Kaunas Polytec Inst), 150 copies, No charge (KL, No 9, 1961, p 183, No 24356). [61-52337]

MATULIS, B.Yu.; VEKTARIS, B.I.

Interaction of dolomite with lime. Trudy AN Lit. SSR. Ser. B  
no.2:185-192 '63. (MIRA 17:10)

Porous lime-diatomite materials. Ibid.:193-198

1. Institut stroitel'stva i arkhitektury AN Litovskoy SSR.

43019

S/020/62/147/005/008/032  
B172/B112

AUTHOR: Matulis, V. A.

TITLE: Two versions of the classical predicate calculus without structural rules of deduction

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 5, 1962, 1029-1031

TEXT: The following concepts are defined: subject propositional and predicate variable, alphabet, elementary and logical formula, free and bound substitution, formula chain, sequal, antecedent, succedent, and pure sequal. The sequents  $S_1$  and  $S_2$  are called almost congruent if  $\varphi(S_1)$  and  $\varphi(S_2)$  are congruent.  $\varphi(S)$  denotes the sequal obtained if, in all formulas of  $S$ , all substitutions of those quantified complexes are omitted in the regions of application where no free substitutions of variables occur that are congruent with the proper variables of these quantified complexes. Calculi  $G'$  and  $G''$  of sequents are described as being of the same extent if, to each sequence  $S_1(S_2)$  of  $G'(G'')$ , there exists a sequence  $S_2(S_1)$  of  $G''(G')$  such that  $S_1(S_2)$  and  $S_2(S_1)$  are almost congruent. The calculi  $E_0$  and  $E'_0$  are

Card 1/2

S/020/62/147/005/008/032  
B172/B112

Two versions of the classical ...

defined by two systems of deduction rules. It is shown that (1)  $E_0$  and  $G_1$  and (2)  $E_0$  and  $G_1$  are of the same extent,  $G_1$  being a calculus introduced by S. K. Klini (Vvedeniye v metamatematiku, M., 1957) which differs from the LK calculus (G. Gentzen, Math. Zs., 39, 176, 1934-1935) only in some technical details.

ASSOCIATION: Leningradskoye otdeleniye Matematicheskogo instituta im. V. A. Steklova Akademii nauk SSSR (Leningrad Branch of the Institute of Mathematics imeni V. A. Steklov of the Academy of Sciences USSR)

PRESENTED: June 19, 1962, by P. S. Novikov, Academician

SUBMITTED: June 12, 1962

Card 2/2

S/020/63/148/004/005/025  
B172/B180

**AUTHOR:** Matulis, V. A.

**TITLE:** Versions of the classical calculus of predicates with a single deduction tree

**PERIODICAL:** Akademiya nauk USSR. Doklady, v. 148, no. 4, 1963, 768 - 770

**TEXT:** The author uses the denotations and results given in a former paper (DAN, 147, no. 5, (1962)). Sequential calculus is the name given to a calculus with a single deduction tree, if the deduction of any sequence derivable in this calculus is, considered as a tree, unique. Calculus  $E_1$  and  $E'_1$ , which have these properties, are defined by giving two systems of deduction rules. They are based on the calculus  $E_0$  and  $E'_0$  constructed in the above study. The calculus  $E_1$  and  $G_1$  are equally comprehensive, so are  $E'_1$  and  $G'_1$ . If  $S$  is a pure sequence, it is derivable in  $E_1$  ( $E'_1$ ) if, and only if, it is derivable in  $G_1$  ( $G'_1$ ). The mechanism of the Skolem functions in  
Card 1/2

S/020/63/148/004/005/025

B172/B180

Versions of the classical ...

$E_1$  and  $E_2$  is replaced by a special method of selecting the variables in the quantifier rules.

ASSOCIATION: Leningradskoye otdeleniye Matematicheskogo instituta im. V. A. Steklova Akademii nauk SSSR (Leningrad Branch of the Institute of Mathematics imeni V. A. Steklov of the Academy of Sciences USSR)

PRESENTED: September 4, 1962, by P. S. Novikov, Academician

SUBMITTED: August 24, 1962

Card 2/2

L 22280-66 EWT(a)/T/EWP(1) IJP(c)

ACC NR: AR6005180

SOURCE CODE: UR/0058/65/000/009/8003/8003

SOURCE: Ref. zh. Fizika, Abs. 9852

AUTHORS: Rumshas, P. D.; Matulis, V. A.; Yutsis, A. P.

47

B

TITLE: Study of  $3nj$  coefficients with an electronic digital computer

REF SOURCE: Lit. fiz. sb., v. 4, no. 4, 1964, 447-455

TOPIC TAGS: quantum mechanics, matrix function, quantum number, computer application, digital computer/ BESM-2M digital computer

TRANSLATION: A method is proposed for studying the  $3nj$  coefficients, based on all possible connections of any of  $2n$  points to three other points in such a way as to make the resultant diagram not cut by less than four lines. The corresponding program for computation with the BESM-2M digital computer is compiled. All  $84$   $21j$  coefficients, specified by the arrangement of diagonals in a  $14$ -side polygon, and classified in accordance with the polygon conditions, are presented. The concept of the matrix of common lines between polygons is introduced and is used to present an additional characteristic for  $18j$  and  $21j$  coefficients.

SUB CODE: 20

Card 1/1 not



MATULES, V.A.

First All-Union Symposium on Computer Search for Logical De-  
ductions. Usp. mat. nauk 19 no.6:239-241 N=0 '64  
(MIRA 18:2)

MATULIS, Yu. Yu.

President, Lithuanian Academy of Sciences.

"Presidents of Academies of Sciences"

SO: Krasnoye Znamya, 1947, Vladivostok

MATULIS, Yu. Yu.

President, Lithuanian Academy of Science..

"Lithuanian Scientists Help in Production" Izvestia, 1949

SO: Current Digest of the Soviet Press, Vol. 1, No. 21, 1949, p. 60, (In Library)

MATULIS, Yu. Yu.

President of the Lithuanian Academy of Sciences. (Lithuanian Republic)

"Cooperation of Science and Practical Work."

SO: Current Digest of the Soviet Press, Vol. III, No. 32, 1951, p. 45. (In Library)

1. MATULIS, YU.
2. USSR 600
4. Science - Lithuania
7. Tasks of great significance, Nauka i zhizn' 19, No. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

MATULIS YU. YU.

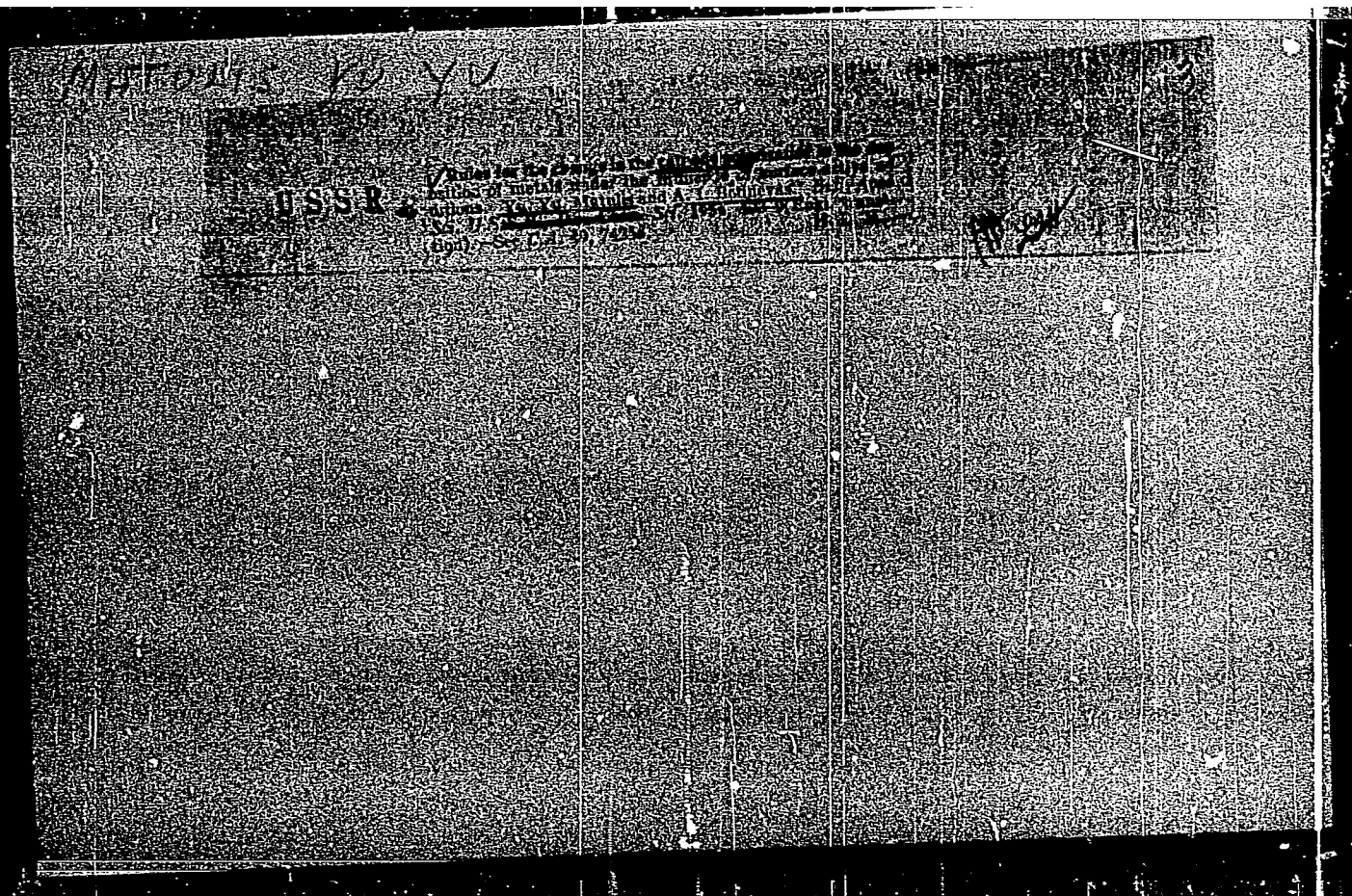
USSR 600

Science- Lithuania

Development of science in Soviet Lithuania. Priroda 41 no. 3, 1952

9. Monthly List of Russian Accessions, Library of Congress, July 1958. Unclassified.  
2

1. MATULIS, Acad. YU. YU.
2. USSR (600)
4. Lithuania - Research, industrial
7. A clear road ahead, Tekh. molod., no. 4, 1953.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.





ABSTRACT, Pt. 10.

Physical Chemistry

1/1 Pt. 10 - 1/27

Authors : Sobell, R. R., and Scheraga, A. I.

Subject : Surface films governing the change in cathodic polarization during separation of metals under the effect of surface-active additions

Published : Int. J. Chem. Phys. Anal., vol. 4, 577 - 586, July - August 1954

Abstract : The rate and magnitude of change in cathodic polarization, under the effect of surface-active substances, were determined in relation to the chemical composition and molecular structure of these substances. A suspension-oscillographic method, which measures these polarization changes during the introduction of various mixtures into the electrolyte during electrolysis, is described. The effect of surface-active substances was established through cathodic polarization of Cu, Ag, Hg and Zn. Authors' References: 14 JACS and 2 German (1945 - 1952). Table; graphs; diagram.

Publication : Inst. of En. Lih-SH, Institute of Chemistry and Chemical Technology

Published : September 14, 1953

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2

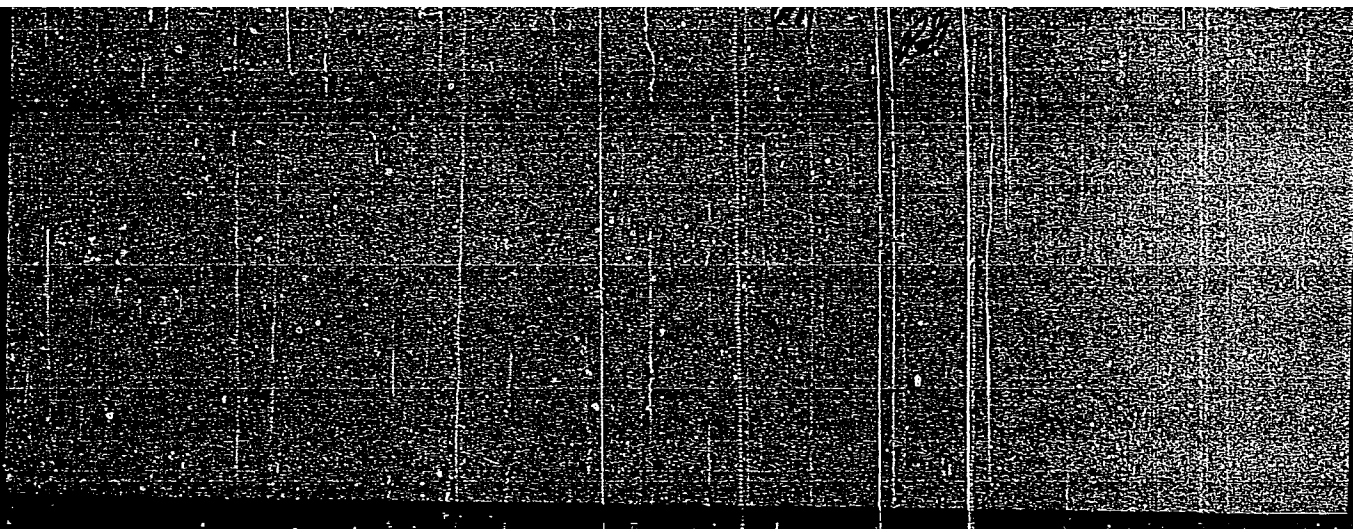


APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2"

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2



APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2"

137-58-6-12942

Translation from: Referativnyy zhurnal, Metallurgiya, 1958. Nr 6, p 251 (USSR)

AUTHORS: Matulis, Yu.Yu., Mitskus, M.A.

TITLE: Formation of Trivalent Chromium Ions, and Their Role in the Process of Chrome Plating (Obrazovaniye trekhvalentnykh ionov khroma i ikh rol' v protsesse khromirovaniya)

PERIODICAL: V sb.: Teoriya i praktika elektrolit. khromirovaniya. Moscow, AN SSSR, 1957, pp 31-43

ABSTRACT The rate of formation of  $\text{Cr}^{3+}$  on the cathode in a 240 g/liter  $\text{CrO}_3$  solution with additions of  $\text{H}_2\text{SO}_4$ ,  $\text{HF}$ ,  $\text{HCl}$ ,  $\text{HNO}_3$ , and  $\text{H}_3\text{PO}_4$  was measured for cathode cd between 6.6 and 25.6 amp/dm<sup>2</sup> and at temperatures between 30 and 70°C. The rate of oxidation of  $\text{Cr}^{3+}$  on the anode in relation to the temperature, the cathode cd, the nature of the anode, and the initial concentration of  $\text{Cr}^{3+}$  in the solution was determined. It was established that the necessary condition for the formation of perceptible quantities of  $\text{Cr}^{3+}$  ions on the cathode is the presence of a minimum quantity of mineral acids or of their anions (excluding  $\text{H}_3\text{PO}_4$ ). The rate of reduction of  $\text{Cr}^{6+}$  to  $\text{Cr}^{3+}$

Card 1/2

137-58-6-12942

## Formation of Trivalent (cont.)

increases with an increase in cathode cd, with a drop in temperature, and with an increase in the concentration of  $H_2SO_4$ ,  $HF$ ,  $HCl$ , or  $HNO_3$  in the electrolyte. For each cathode cd there is a corresponding threshold concentration of each added acid beyond which the current efficiency of  $Cr^{3+}$  ions attains almost 100%. This is related to the appreciable changes in the cathode polarization attending an increase in the amount of additions of extraneous contaminating acids or their anions. The rate of oxidation of  $Cr^{3+}$  is measurable on Pb anodes only. There is virtually no observable oxidation of  $Cr^{3+}$  on Pt steel, and Fe anodes at temperatures between 30 and 50° and anode cd between 6.6 and 25.6 amp/dm<sup>2</sup>. The rate of oxidation on the anode grows with increasing initial concentration of  $Cr^{3+}$  in the solution, temperature, and (anode) cd. The rate of reaction and anode cd are not proportional to one another, which leads to the conclusion that the oxidation of  $Cr^{3+}$  on the anode is not a purely electrochemical process. From a comparison of the rate of formation of  $Cr^{3+}$  ions on the cathode with the rate of their oxidation on the anode it was calculated that about 10-15% of the electricity spent on chrome plating is used for the  $Cr^{3+}$  cycle. For preserving a steady-state concentration of 1 g/liter in a constantly working bath at 50° it is necessary to keep the ratio between the surfaces of the cathode and Pb-anode at a ratio of 1 : 2.

L. A.

Card 2/2 1. Chromium plating--Electrochemistry 2. Chromium ions--Properties

MATULIS, Yu. Yu.

137-58-1-1378

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 183 (USSR)

AUTHORS: Matulis, Yu. Yu., Valentelis, L. Yu.

TITLE: Chemical Polishing of Aluminum and Its Alloys (K voprosu o khimicheskoy polirovke alyuminiya i yego splavov)

PERIODICAL: Liet. TSR mokslu Akad. darbai /Tr. AN LitSSR, 1957), Vol 2B, pp 33-39 (Summary in Lithuanian)

ABSTRACT: The efficiency of solutions for the chemical polishing of Al and its alloys has been studied to find the optimum conditions for this process. The experiments were run in solutions consisting of mixtures of  $H_3PO_4$ ,  $HNO_3$  and acetic acid, with stationary and rotating specimens of technically pure aluminum and duraluminum. Optimum ratios of the various acids in the mixtures and other conditions required for the chemical polishing of Al and duraluminum have been established. The rate of solution of the metal during polishing was established for stationary and rotating specimens. Analysis of the results leads to the hypothesis that the mechanism of chemical polishing of Al and its alloys in mixtures of the acids employed is based on the inhomogeneity of the oxide film on the projections and depressions in the sur-

Card 1/2

137-58-1-1378

Chemical Polishing of Aluminum and Its Alloys

face of the metal on differences in the rates of diffusion of the substances participating in the reaction.

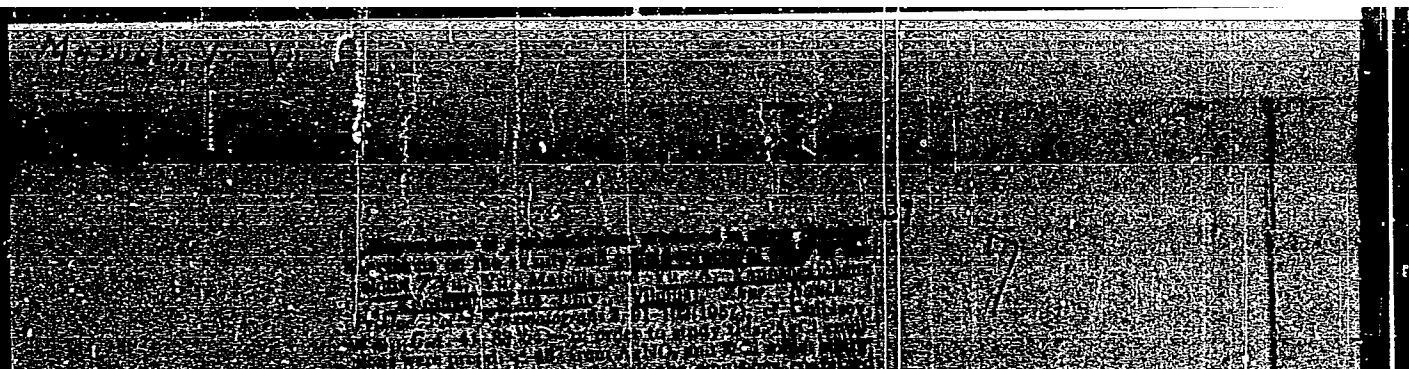
T. S.

1. Aluminum--Chemical polishing    2. Aluminum alloys--Chemical polishing

Card 2/2

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2



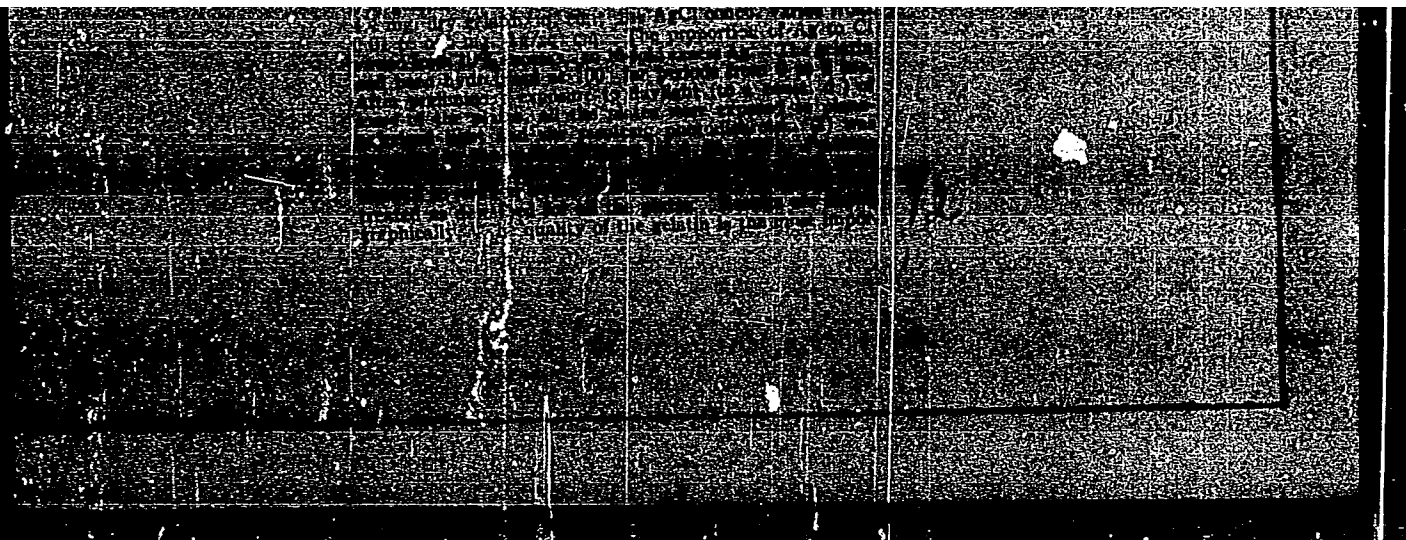
APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2"



"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2



APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R032932920009-2"



accumulation of hydrolysis products of the emulsion, which  
turns light-sensitive complex with Ag ion. The degree and  
spectral distribution of I depend largely on the degree of  
swelling of the emulsion in buffer solution. The degree of  
swelling of the emulsion is especially high in the presence of NaCl.

177/1700/15 4, 4, 1

137-58-3-5641

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 164 (USSR)

AUTHORS: Matulis, Yu. Yu., Valentelis, L. Yu.

TITLE: To the Problem of Obtaining Bright Galvanized Copper Coatings  
From Sulfuric Acid Solutions (K voprosu blestyashchikh  
gal'vanopokrytiy med'yu iz sernokislykh rastvorov)

PERIODICAL: Liet. TSR Mokslu Akad. darbai, Tr. AN LitSSR, 1957, B3  
(II), pp 17-31

ABSTRACT: Investigations were performed in order to determine conditions required to obtain bright galvanized Cu coatings from sulfuric acid electrolytes of the following composition: 250 g/liter  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ , 50 g/liter  $\text{H}_2\text{SO}_4$ ; the temperature was maintained at  $18^\circ\text{C}$  and various amounts of luster-producing agents [ thiourea (T), n-benzosulfo-azo-naphthylamine, and organic compounds containing azo groups ] were added. Stationary as well as revolving cathodes (with a rotary velocity of 380-4200 rpm) were employed in the electrodeposition of Cu. In the course of each electrolysis process the cathodic polarization was measured by means of the null method. The quality of the Cu coating was inspected visually and was investigated

Card 1/3

137-58-3-5641

## To the Problem of Obtaining Bright Galvanized Copper Coatings (cont.)

microscopically as well as by means of X-ray diffraction. Measured data indicate that additions of T significantly displace the cathodic polarization potential of Cu liberation in the negative sense. This effect is amplified by increasing the amount of T in the electrolyte and by employing revolving electrodes. It is established that the displacement of the cathode potential resulting from an addition of T is connected with the formation of a bright structure of electrolytically deposited Cu. It is shown that T reacts with Cu to form compounds and complex ions of the type:  $\text{Cu}(\text{CSN}_2\text{H}_4)_4^+$ . The formation of such cations causes considerable amounts of T to enter the galvanic precipitates, thus creating internal stresses and brittleness and impairing the adhesion between the galvanic coating and the parent metal. By adding n-benzosulfo-azo-naphthylamine to the electrolyte it was possible to reduce the amount of T present in the galvanic precipitate and to achieve bright plastic Cu coatings which adhere firmly to the parent metal. In addition, the aromatic compounds also stabilize the cathodic potential, which tends to fluctuate at greater current densities if T is present in the acidic copper electrolyte. The mechanism of this process involves a reaction between the anions of the aromatic compounds and the complex ions  $\text{Cu}(\text{CSN}_2\text{H}_4)_4^+$ , as well as the formation of large neutral molecules, all of which prevents the inclusion of T into the galvanic Cu coating. It is established that strong, bright, plastic

Card 2/3

137-58-3-5641

To the Problem of Obtaining Bright Galvanized Copper Coatings: (cont.)

deposits of electrolytic Cu are obtained at room temperature in standard sulfuric acid copper-plating electrolytes, if the electrolyte contains additions of T (0.062-0.124 g/liter) and n-benzosulfo-azo-naphthylamine (0.02-0.085 g. liter).  
A. L.

Card 3/3

*Matulis, Yu. Yu.*

25-10-11/41

AUTHOR: Matulis, Yu.Yu., Member-Correspondent of the USSR Academy of Sciences, President of the Lithuanian Academy of Sciences

TITLE: Friendship in a Family of Nations (V družnomy sem'ye narodov)

PERIODICAL: Nauki i Zhizn', 1957, # 10, p 30 (USSR)

ABSTRACT: The Lithuanian Academy of Sciences was established in 1941. During the following years it achieved quite a success in the fields of science, engineering and education. In 1939, for example, there were only 50 chemists with specialized training in Lithuania, and at the present time about 200 qualified specialists leave the institutes annually. The research done by the Academy of Sciences helped to develop the natural resources and industrial possibilities of the country. A far reaching study was devoted to the Lithuanian chalk, clay, peat, and limestone deposits and the first detailed geological map was prepared. Efforts are made to utilize the waters of the river Nemunas for the generating of power and electrification of agriculture. Lithuanian scientists compiled a number of comprehensive works of general character such as "The Economic and Physical Geography of Lithuania" and the "Flora of Lithuania". Lithuanian scientists organized a special scientific laboratory

Card 1/2

Friendship in a Family of Nations

25-10-11/41

in the "Zhal'giris" factory, whose research is of great use to the "Zhemaytiysk" collective farms, the Kaunas textile industry as well as to the Baltic fishing fleet. The Laboratory for Metallography and Electrical Engineering developed a new steel production method for shaped casting by oxygen blowing, a textile laboratory investigates the wear of napped woolen textiles with the purpose to intensify textile production and improve the quality of the material.

AVAILABLE: Library of Congress

Card 2/2



MATULIS, Yu. Yu.

"Lithuania (Litva) is rich in vegetable raw materials, thus has to intensify her research on this field"

**report presented at the session of the Presidium of the Council for Co-ordination of Scientific Work of the Academies of Sciences of Union Republics and Branches (on Development of Researches on Highly Molecular Compounds)  
21 June 1958. (Vest. Ak. Nauk SSSR, 1958, No. 9, pp. 101-104)**

President of the AS Litovskaya

SOV/137-58 11-23142

Translation from: Referativnyy zhurnal. Metallurgiya 1958, Nr 11, p 187 (USSR)

AUTHORS: Matulis, Yu. Yu., Bodnevas, A. I.

TITLE: On the Processes Caused by Changes in the Acidity of the Medium and Additions of Furfural During the Electrolytic Deposition of Cadmium From Sulfate Solutions (O protsessakh, vyzyvayemykh izmeneniyem kislotnosti sredy i dobavkami furfurola pri elektroosazhdenii kadmiya iz sernokislykh rastvorov)

PERIODICAL: Tr. AN LitSSR, 1958, Vol B1(13), pp 21-37

ABSTRACT: A study was made of the character of the changes in the cathodic polarization (P) and the mechanics of the electrode reactions caused by an increase in the acidity of the electrolyte and additions of furfural. The experiments were performed in 0.25 and 0.5N CdSO<sub>4</sub> solutions acidulated with H<sub>2</sub>SO<sub>4</sub>. The measurements of the cathodic P were achieved by the compensation-potentiometric and oscillographic methods. In a series of experiments the rate of H<sub>2</sub> evolution on the cathode was measured. The structure and the properties of the Cd deposits were also studied. The authors found that with the increase of the acidity of the solution the volume of the saturation current

Card 1/2

SOV/137-58-11-23142

On the Processes Caused by Changes in the Acidity of the Medium (cont)

decreases appreciably and the  $P$  potential assumes a more constant value. The leveling off of the potential results in an improved quality of the deposits with a decrease in the pH of the electrolyte. The authors submit that the stabilizing action of the  $H^+$  ions on the potential of the cathode  $P$  in the electrolytic deposition of Cd is related to complex colloidal chemical processes occurring in the layer near the cathode and on the surface of the cathode. During the electrolytic deposition of Cd partial evolution of  $H_2$  takes place which reduces the furfural (added to the electrolyte) in the cathode layer to products that possess inhibiting properties. A study was made of the character and the conditions leading to the origination of periodic variations of the  $P$  potential in the presence of furfural.

A. P.

Card 2/2

SOV/137-58-10-21362

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10 p 130 (USSR)

AUTHORS: Matulis, Yu. Yu., Mitskus, M. A.

TITLE: On the Problem of Electrolytic Deposition of Chromium From Chromic Acid on Revolving Cathodes (K voprosu elektroosazhdeniya khroma iz rastvorov khromovoy kisloty na vrashchayushchikhsya katodakh)

PERIODICAL: Tr. AN LitSSR, 1958, Vol B1(13), pp 39-53

ABSTRACT: A study of polarization phenomena occurring on Cu cathodes (C) during the electrolysis of  $\text{CrO}_3$ . A Pt plate was used as the anode. The interdependence of the processes of discharge of the  $\text{H}^+$  ions and that of deposition of Cr was investigated. The character of the variations of the cathode potential in relation to the composition of the electrolyte, the ratio of the concentrations of  $\text{CrO}_3$  and  $\text{H}_2\text{SO}_4$  in the solution and the speed of revolution of the C was studied. It is established that metallic Cr is deposited on revolving C under considerably greater cathode cd's than on stationary C. The threshold value of the cathode cd at which the deposition of Cr begins is directly proportional to the speed of revolution of C. An increase in the speed of

Card 1/2

SOV/137-58-10-21362

On the Problem of Electrolytic Deposition

revolution of K and in the concentration of  $\text{SO}_4^{2-}$  anions in the solution d s -  
place the polarization curves in the same direction. Bibliography 17  
references.

A. P.

1. Chromium--Electrodeposition
2. Chromic acid--Applications
3. Cathodes--Performance

Card 2/2

MATULIS, J.

SCIENCE

PERIODICAL: DARBAI. SERIFA B. TRUDY. SERIJA B. No. 2, 1958

Matulis, J. The character of the change of cathode polarization of copper under the influence of some organic admixtures. In Russian. p. 7.

Monthly list of East European Acquisitions (EEAI) LC, Vol. 8, No. 2,  
February 1959, Unclass.

SOV 137-59-2-4538

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 316 (USSR)

AUTHORS: Gal'dikene, O. K., Matulis, Yu. Yu.

TITLE: On the Character of Variations of Cathode, Polarization of Copper Caused by Certain Organic Additives (O kharaktere izmeneniy katochnoy polyarizatsii medi pod vliyaniyem nekotorykh organicheskikh dobavok)

PERIODICAL: Tr. AN LitSSR, 1958, Vol B 2 (14), pp 71-73

ABSTRACT: The authors investigated the rate and character of the change in the cathode polarization in the electrolytic deposition of Cu from a solution of sulfate in relation to the cathode cd and the type of organic additive (OA) used. Aliphatic alcohols from the butyl to the nonyl and aromatic acids (anthranilic, salicylic, and m-benzoic) were used as OA. The cathode potentials were measured by the compensation-oscillographic method. OA of amyl, heptyl, and octyl alcohols cause a passivation (P) of the cathode in the absence of current owing to the adsorption of OA on the cathode. The P effect increases with the lengthening of the carbon chain of the alcohol, the increase in cathode cd, and the length of the interruption of the electrolysis. The rate of adsorption of these

Card 1/2

SOV/137-50 2-4538

On the Character of Variations of Cathode Polarization of Copper Caused (cont.)

OA is limited by the adhesion of their molecules to the surface of the cathode, and not by diffusion processes. OA of aromatic acids cause no cathode P in the absence of a current, but quite to the contrary depassivate it; however, they do increase the P with an increase in cathode cd. The difference in the behavior of aromatic acids and aliphatic alcohols is explained by the difference of the electrolytic properties of the OH and COOH radicals. Whereas the OH radical of the alcohol is repelled by electrons, the COOH radical of the acid is attracted by them Bibliography: 24 references.

N K

Card 2/2



MATULIS J.

SCIENCE

PERIODICAL: DARBAI. SERIJA P. TRUDY. SERIJA B. No. 2, 1958

Matulis, J. The question of periodic oscillations of the cathode potential of cadmium in its electrolytic separation from sulfatic solutions, containing some colloidal admixtures. In Russian. p. 85.

Monthly list of East European Accessions (EEAI) LC. Vol. 8, No. 2,  
February 1959, Unclass.

3/081/60/000/023/004/021  
A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960 No. 23, pp. 318 - 319,  
# 92997

AUTHOR: Mitulis, Yu.Yu.

TITLE: On the Theoretical Problem of Electrolytic Chrome Plating

PERIODICAL: V sb.: Vopr. teorii khromir. Vil'nyus, Gospolitizdat LitSSR, 1959,  
pp. 7 - 38, Discussion, pp. 177 - 191

TEXT: The works are reviewed on the problem of electrodeposition of Cr  
from solutions of  $\text{CrO}_3$ . Conclusions of numerous investigators are theoretically  
generalized. There are 60 references. ✓

N.M.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

PHASE I BOOK EXPLOITATION NOV/22/16

5(4)

Sovetskaniye po elektrokhemii. 1st, Moscow, 1956.

Trudy... [laborniki] (Transactions of the Fourth Conference on Electrochemistry, Collection of Articles) Moscow, 1st-10th 1956. 1959. 868 p. Errata slip inserted. 2500 copies printed. Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk.

Editorial Board: A.M. Pruskin (Resp. Ed.), Academician, O.A. Yezlin, Professor, I. Zhidnev (Resp. Secretary), B.M. Kabanov, Professor, I.M. Kuznetsov (Resp. Secretary), B.M. Kabanov, Professor, I.M. Kuznetsov, Doctor of Chemical Sciences, V.V. Losev, P.D. Lavrenko, Professor, Z.A. Solov'yeva, V.V. Stender, Professor, and G.M. Floriansovich; Ed. of Publishing House: N.O. Todorov; Tech. Ed.: T.A. Prusakova.

PURPOSE: This book is intended for chemical and electrical engineers, physicists, metallurgists and researchers interested in various aspects of electrochemistry.

COVERAGE: The book contains 127 of the 138 reports presented at the Fourth Conference on Electrochemistry sponsored by the Department of Chemical Sciences and the Institute of Physical Chemistry, Academy of Sciences, USSR. The collection pertains to different branches of electrochemical kinetics, double layer theories and galvanic processes in metal electrodeposition and industrial electrolysis. Abridged discussions are given at the end of each section. The majority of reports not included here have been published in periodical literature. No periodicals are mentioned. References are given at the end of most of the articles.

Ragotzke, I.A., and A.I. Oshe (Institute of Electrochemistry, Academy of Sciences, USSR). Effect of Atomic Hydrogen Diffusion on the Potential of Polarized Iron Electrodeposits on it 82

Vishnitskii, R.M., and Yu.Yu. Matulis (Institute of Chemistry and Chemical Technology, Academy of Sciences, Lithuanian SSR). Role of Inorganic Ions in the Process of Electrolytically Separating Hydrogen From Acid Solutions at a Rotating Cathode 86

Kofa, Z.A., and Z.A. Mazurenko (Moskovskiy gosudarstvennyy universitet-Moscow State University). Influence of the Nature of Cations on Overvoltage During the Separation of Hydrogen From Alkaline Solutions at a Mercury Cathode 91

Kuchinskii, Ya.M., and I.Ya. Vozlovaya. Dependence of Hydrogen Overvoltage on Surface Condition of an Iron Cathode in an Alkaline Solution 96

Card 5/54

Durdin, Ya. V., L. Kish, and V.I. Kravtsov (Leningradskiy gosudarstvennyy universitet, Leningradskiy gosudarstvennyy universitet, Leningrad State University, I.M. A.A. Zhdanov - Use of the Oscillographic Method in Investigating Kinetics of Electrode Processes Which Take Place at the Surface of Dissolving Metals 102

Losev, V.V., and A.M. Khopin (Institute of Electrochemistry, Academy of Sciences, USSR). Using Radioactive Indicators to Study Processes of Ionization and Discharge of Metals Ions at Amalgam Electrodes 116

Podguzkin, Yu. A., and A.I. Shlygin (Moscow State University). Charging Curves of Mercury Catalysts and Adsorbents 125

Discussion L.G. Kuznetsov, L.I. Kravtsov, A.L. Rodin, N.P. Zhuk, I.P. Kuchinskii, V.V. Kravtsov, M.A. Gerasimov (Deceased), A.O. Strumberg and contributing authors 128

Rodosev, A.I., and Yu.Yu. Matulis (Institute of Chemistry and Chemical Technology, Academy of Sciences, Lithuanian SSR). New Electrolyte for Bright Plating 177

MATULIS, YU. YU.

5(4) PHASE I BOOK EXPLOITATION SOV/2216

Sovetskaniye po elektrokimii. 4th, Moscow, 1956.

Trudy... [abornik] (Transactions of the Fourth Conference on Electrochemistry; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 868 p. Errata slip inserted. 2,500 copies printed. Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye Khimicheskikh nauk.

Editorial Board: A.M. Prumkin (Resp. Ed.) Academician, O.A. Yasin, Professor, L. Zhdanov (Resp. Secretary), B.M. Kabanov, Professor, Ya.M. Kolotayev, Doctor of Chemical Sciences, V.V. Losev, P.D. Lakotsev, Professor, L. Solov'yev, V.V. Stender, Professor, and O.M. Pliginskii, Ed. of Publishing House: N.O. Yegorov; Tech. Ed.: T.A. Prusakova.

PURPOSE: This book is intended for chemical and electrical engineers, physicists, metallurgists and researchers interested in various aspects of electrochemistry.

COVERAGE: The book contains 127 of the 138 reports presented at the Fourth Conference on Electrochemistry sponsored by the Department of Chemical Sciences and the Institute of Physical Chemistry, Academy of Sciences, USSR. The collection pertains to different branches of electrochemical kinetics, double layer theories and galvanic processes in metal electrodes, corrosion and industrial electrolysis. Abridged discussion of the state of the art of each division. The majority of reports not included here have been published in periodical literature. No personalities are mentioned. References are given at the end of most of the articles.

Routetskiy, Ya. Institute of Physical Chemistry, Czechoslovakian Academy of Sciences). Survey of the Latest Theoretical Work at the Prague Polarographic School 143

Nikolayev-Petrovich, N.V., and B.B. Danaskin (Moscow State University). Influence of the Medium of "Background" Cations on the Reduction of Persulfate Anions at a Mercury Electrode 150

Stefan, ... Institute of Physical Chemistry, Polish Academy of Sciences). The Influence of Structural Changes in HNO<sub>3</sub> Molecules on the Course of Cathodic Polarization of a Platinum Electrode in Nitric Acid Solutions 159

Zhdanov, S.I., V.I. Zykov, and T.V. Kalish (Institute of Card 7/34

Electrochemistry and Physics, Dresden School for Advanced Technology). The Influence of Organic Solvents on Wave Height and Semisive Potential of Organic Depolarizers 170

Zabotin, P.I., S.P. Buchman, and G.Z. Kir'yakov (Institute of Physical Chemistry, Kazakh SSR). Influence of the Position of Zero-Charge Points on the Reduction of Indium at a Mercury-Drop Electrode 179

Koryta, L. Polarographic Institute, Czechoslovakian Academy of Sciences). Kinetics of the Separation of Cadmium from Cyanide Complexes at Dropping Mercury Electrodes and Streaming Mercury Electrodes 186

Shchegol', Sh. S. (Central 'nays laboratoriya "Zavodstroya" Dnepropetrovsk-Centrallaboratory, Zavodstroya, Dnepropetrovsk). Reduction of a Chlorite Ion at a Dropping Mercury Cathode 193

Card 8/34

MATULIS, YU. YU.

PHASE I BOOK EXPLOITATION 80V/2216

0 5(4)

Reviews of electrochemical. 4th, Moscow, 1956.

Trudy... (Transactions of the Fourth Conference on Electrochemistry, Collection of Articles) Moscow, 1956. 2,500 copies printed. 1959. 863 p. Errata slip inserted. 2,500 copies printed. Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk.

Editorial Board: A.M. Prumkin (Resp. Ed.), Academician, O.A. Yezin, Professor, S.I. Zhdanov (Resp. Secretary), B.M. Kabanov, Professor, Professor, S.I. Zhdanov (Resp. Secretary), B.M. Kabanov, Professor, Ye. M. Kalotyrkin, Doctor of Chemical Sciences, V.V. Loay, P.D. Lukovtsev, Professor, Z. M. Kolov'eva, V.V. Stender, Professor, and G.M. Florinovich, Ed. of Publishing House: N.G. Yagorov, Tech. Ed.: T.A. Prusakov.

PREFACE: This book is intended for chemical and electrical engineers, physicists, metallurgists and researchers interested in various aspects of electrochemistry.

CONTENTS: The book contains 127 of the 138 reports presented at the Fourth Conference on Electrochemistry sponsored by the Department of Chemical Sciences and the Institute of Physical Chemistry, Academy of Sciences, USSR. The collection pertains to different branches of electrochemical kinetics, double layer theories and galvanic processes in metal electrodeposition and industrial electrolysis. Abridged discussions are given at the end of each division. The majority of reports not included here have been published in periodical literature. No personalities are mentioned. References are given at the end of most of the articles.

Chelvi, V.P. Characteristic Features of the Separation of Disperse Cathodic Deposits of Metals 517

Prudov, B.I. (Nauchno-issledovatel'skiy i proyektnyy institut "Gipromet"; Tekhnologicheskii institut Leningrad-Scientific Research and Planning Institute "Gipromet"; Technological Institute, Leningrad). Cathodic Deposition of Metal in Disperse Form 520

Prutsevich-Zabudovskaya, T.V., and A.I. Zakhata. Comparative Characteristics of Processes for Electrodeposition of Molybdenum and Tungsten Alloys with Metals of the Iron Group 524

Krasovskiy, A.I. (Institute of Physical Chemistry, Academy of Sciences, USSR). Some Problems of the Mechanism of the Electrodeposition of Nickel-Molybdenum Alloys 530

Tsygankov, G.A., A.I. Chernilovskaya, and A.I. Ioselavich. Institut Khimii AN UssR-Institute of Chemistry, Academy 534

Card 21/34

SOV. 26-86-1-15/34

**AUTHOR:** Matulis, Yu. Yu., Corresponding Member AS USSR, President  
~~AS Litovskaya SSR~~

**TITLE:** A Broad Front of Scientific Works (Shirokiy front nauchnykh rabot)

**PERIODICAL:** Priroda, 1959, Nr 1, pp 36-38 (USSR)

**ABSTRACT:** In conjunction with the general assignments given to Soviet science to meet the new plan requirements, the AS of the Lithuanian SSR will be concerned with the investigation and solution of over 70 serious problems. About one third of the themes will coincide with those to be worked on All-Union-wide. This includes the development of methods for the probability theory and mathematical statistics and their application in technology and industry, threshold theorems of integral calculus for independent and dependent magnitudes, and the development of the chief problems of the information theory, especially with respect to the establishment of threshold regularities. Fast-operating mathematical machines will be employed on a large scale in Lithuania for the first time. This necessitates the development of methods of mathematical programming, and logics of design.

Card 1/4

SOV, 26-59-1-15/34

A Broad Front of Scientific Works

design and construction of electronic machines and their elements and cybernetic devices for controlling industrial production processes. The newest department of the Lithuanian Academy, the Institut fiziki i matematiki (Institute of Physics and Mathematics), participates in the development of methods of spectroscopy of atoms and molecules and nuclear spectroscopy. For the past few years it has been engaged in research on quantum-mechanical calculation of atoms with the aid of multi-configuration approximation. This field is to be expanded during the new plan period and is to be applied also to the theoretical calculations of the nuclear levels of certain atoms and of nuclear radiations. The same institute, together with the Institut energetiki i elektrotechniki (Institute of Power Engineering and Electrotechnics), will investigate thin semiconductor layers and their systems. The results will be applied to electrometrical technology and that of the construction of electric devices; both are branches developing fast in the Lithuanian Republic. The Institut geologii i geografii (Institute of Geology and Geography) of the

Card 2/4

SOV/26-5-1-15/34

**A Broad Front of Scientific Works**

Lithuanian AS will intensify the study of atmospheric radioactivity, the physics of clouds and precipitation. This will be important with respect to several new scientific branches, such as radiology, geo-chemistry and cosmic-radiation research. The Institut khimii i khimicheskoy tekhnologii (Institute of Chemistry and Chemical Technology) will conduct research on the theory of electrochemical processes and the mechanism of cathode reactions in the electroplating of certain metals. It will also be concerned with the study of certain catalytic reactions in solutions, investigations and synthesis of substances analogous to vitamin A, an all-round study of the local mineral raw materials and the development of methods to utilize these minerals in the production of construction material. Quite generally, increased research has to be devoted to the fields dealing especially with those substances and raw materials which occur in Lithuania. This will also include theoretical and practical work towards a large-scale utilization of the Republic's sapropel (algal coal) deposits which are preliminarily estimated at

Card 3/4



30V/26-59-1-15/34

**A Broad Front of Scientific Works**

hundreds of millions of tons. Similar attention is to be paid to existing layers of sodium, potassium sulfate, potassium chloride, cesium salts and other elements. The stepped-up use of the Republic's hydroelectric power resources and its connection with the intended united energy system of the USSR, an intensification of the industrial use of the forests and bodies of water with respect to cellulose, pulp and paper and reed and fish, acclimatization of plants and animals from other regions, and the establishment of relevant research institutes are additional special assignments for the Lithuanian scientific institutions. There is 1 photograph.

**ASSOCIATION:** Akademiya nauk Litovskoy SSR, Vil'nyus (The Academy of Sciences of the Lithuanian SSR, Vil'nyus)

Card 4/4

RIMDZHYUTE, D.K. [Rindziute, D.]: MITSKUS, M.A. [Mickus, M.]; MATULIS, Yr.Yu.  
[Matulis, Juozas]

Composition and some properties of cathode films forming in the  
electrolysis of the solutions of chromic acid. Liet ak darbai B  
no.4:91-102 '59. (KRAI 9:3)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.  
(Chromic acid) (Electrolysis)  
(Cathodes)

MATULIS, Yu.Yu. [Matulis, J.]; RACHINSKAS, V.S. [Racinakas, V.]

The role of hydrogen in the electrolytic process of separating zinc from sulfate solutions. Liet ak darbai B no.2:99-125 '60. (EEAI 10:1)

1. Institut khimii i khimicheskoy tekhnologii Akademii nauk  
Litovskoy SSR

(Hydrogen)  
(Sulfates)

(Zinc)  
(Solutions)

(Electrolysis)

RACHINSKAS, V.S. [Racinskas, V.]; MATULIS, Yu.Yu. [Matulis, J.]

Some conditions of formation of colloids in a cathode layer during the electrolytic separation of zinc from sulfate solutions. Liet ak darbai B no.2:125-138 '60. (EKAI 10:1)

1. Institut khimii i khimicheskoy tekhnologii Akademii nauk  
Litovskoy SSR  
(Colloids) (Zinc) (Electrolysis) (Sulfates)

GALDIKENE, O.K. [Galdikiene, O.]; MOLCHADSKIS, A.M. [Molcadskis, A.];  
MATULIS, Yu.Yu. [Matulis, J.]

Concerning the application of cupric ammonium electrolyte. List ak  
darbai B no.2:139-143 '60. (EKAI 10:1)

1. Institut khimii i khimicheskoy tekhnologii Akademii nauk  
Litovskoy SSR  
(Electrolytes) (Copper sulfate) (Ammonium sulfate)

YANITSKIY, I.V. [Janickis, J.]; MATULIS, Yu.Yu. [Matulis, J.]; SASNAUSKAS, K.I.  
[Sasnauskas, K.]

The influence of amorphous silicic acid found in molds on hardening of  
the silica products. Liet ak darbai B no.2:163-180 '60. (EEAI 10:1)

1. Institut stroitel'stva i arkhitektury Akademii nauk Litovskoy SSR  
i Kaunasskiy politekhnicheskii institut  
(Silicic acid) (Silica)

MATULIS, Yu.Yu.; BUBALIS, Yu.S. [Bubelis, J.]

The mechanism of cathode processes in case of electrolytic precipitation of iron from sulfuric-acid solutions. Liet sk Darbai B no.3:67-92  
'60. (EAI 10:3)

1. Vilnyuskiy gosudarstvennyy universitet in. V.Kapsukas.  
(Iron) (Electrolysis) (Sulfuric acid)  
(Cathodes) (Solutions)

BODNEVAS, A.I., kand. khim. nauk, red.; MATULIS, Yu.Yus., ~~lektor khim.~~  
nauk, red.; YANITSKIY, I.V. [Janicki, I.], red.; FABIONAVICHYU, I.  
[Fabijonavicius, I.], ~~inzh.~~, ~~otv. za vypusk~~; KANCVICH, N., red.;  
PILKAUSKAS, K., tekhn. red.

[Improvement of electroplated coatings; materials] Voprosy us-  
vershenstvovaniia gal'vanopokrytii; materialy. Vil'nius, In-t  
khimii i khimicheskoi tekhnologii Akad. nauk Litovskoi SSR, 1961.  
122 p. (MIRA 15:4)

1. Respublikanskaya konferentsiya khimikov-gal'vanikov, rabotnikov  
nauki i promyshlennosti. 2d, Vilnius, 1960.  
(Electroplating)



MATULIS, J., red.; ZIUGZDA, J., red.; JUCYS, A., red.; LASAS, V.,  
red.; KORSAKAS, K., red.; PETRAUSKAS, V., red.; ISKAUSKAS, J.,  
red.; ~~FRIDAITIS~~, I., red.; SARKA, S., tekhn. red.

[Science in Soviet Lithuania] Mokslas Tarybu Lietuvoje. Vilnius,  
Valstybine politines ir mokslines literaturos leidykla, 1961.  
334 p. (MIRA 15:3)

1. Lietuvos TSR Mokslu akademija, Vilna.  
(Lithuania--Science)

MATULIS, Yu., Yu.[Matulis, J.]; VALENTELIS, L. Yu.[Valentelis, L.]

On the mechanism of cathode processes occurring in the electrodeposition of nickel. Liet ak darbai B no.1:155-175 '61.  
(KEAI 10:9)

1. Institut khimii i khimicheskoy tekhnologii Akademii nauk Litovskoy SSR.

(Electroplating) (Nickel)

BUBIALIS, Yu. S. [Bubelis, J.]; MATULIS, Yu. Yu. [Matulis, J.]

Prospects for improvement of galvanized iron. Liet ak darbai B  
no. 1:177-193 '61. (KEAI 10:9)

1. Kafedra fizicheskoj khimii Vil'nyusskogo gosudarstvennogo universi-  
teta im. V. Kapsukasa.

(Iron) (Galvanising)

34721

01/07/00/00/000/00/00  
000/000

1.1800

181152

AUTHORS

Bodnev, A. I., Matulis, Yu. Yu.

TITLE

Cathodic processes occurring in the electrodeposition of cobalt  
and the action mechanism of lyophilic colloids

PERIODICAL:

Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 92, abstract 11451  
("Tr. AN LitSSR", 1961, B 2(25), 119 - 136, Lithuanian summary)

NOTE

A study was made of polarization phenomena at relatively low D and acidified  $\text{CoSO}_4$  solutions and the action of admixtures of certain lyophilic colloids upon the cathodic polarization of Co was investigated in the course of electrodeposition from  $\text{CoSO}_4$  solutions having different pH values and, in some cases, containing  $\text{H}_3\text{BO}_3$ . In acid solutions of  $\text{CoSO}_4$  at low D there occurs only discharge of  $\text{H}^+$  ions. The priority of this process is retained from the moment of switching on even at higher values of D. In the latter case the concentration of  $\text{H}^+$  ions in the layer closest to the cathode is quickly depleted, the more active centers of the cathode become coated with Co hydroxide and the polarization potential momentarily prompts a rise in the equilibrium potential of the metal whose electrodeposition occurs with a considerable overvoltage. The greatest rise

Card 1/2

Cathodic processes occurring in...

S/137/62/000/002/111/1--  
A060/A101

in the cathodic polarization from colloid admixtures occurs in the region of pH 1.5 - 2.5, where the  $\text{Co}^{2+}$  ions are discharged with a maximum overvoltage, and the smallest increases in polarization potential produce colloids in the region of the minimum overvoltage of the  $\text{Co}^{2+}$  ion discharge, which occurs at pH 3.5.  $\text{H}_3\text{BO}_3$  which considerably increases the cathodic polarization in the region of pH > 2.5 and evens out the overvoltage minimum for the discharge of  $\text{Co}^{2+}$  ions, being in the vicinity of pH 3.5, sharply increases the action of colloids, aluminum colloids in particular, upon the cathodic potential in the entire pH interval from 1.5 to 6. There are 52 references.

Authors' summary

[Abstracter's note: Complete translation]

Card 2/2

5.1310

33853  
S/137/62/000/001/205/237  
A154/A101

**AUTHORS:** Matulis, Yu. Yu., Molchadskiy, A. M.

**TITLE:** On the mechanism of the cathode processes taking place upon the deposition of lustrous silver galvanic deposits

**PERIODICAL:** Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 91, abstract 11647 ("LietTSR Mokslu Akad. darbai, Tr. AS LitSSR", 1961, B2 [25], 167-186, Lithuanian summary)

**TEXT:** The normal compensation method on fixed and rotating cathodes was used to study the polarization and the nature of its variation in cyanogen silver-plating electrolytes depending on the concentration of the basic components of the solution, the temperature and the introduction of the luster promoting substances: thiourea and sodium thiosulfate. On the cathode polarization curves two limit currents were observed, the first of which arises at lower  $E_{\text{cathode}}$  values and can be entirely suppressed by a large surplus of free cyanite in the electrolyte. The appearance and level of the first limit current is governed mainly by the chemical processes taking place in the cathode layer, and of the second limit current - by the rate of diffusion of the complex anions.

Card 1/2

33853

S/137/62/000/001/205/237  
A154/A101

On the mechanism of the cathode ...

Additions of thiourea and sodium thiosulfate as luster promoting substances have a depolarizing effect right up to the transition of the potential to the H liberation branch, considerably increase the level of the first limit current and have practically no effect on the level of the second limit current. Lustrous Ag deposits are formed only within the limits of the first limit current displacement. On the basis of the relationships established between the regions of the first limit current displacement and the formation of lustrous deposits, it was proposed that the luster promoting substances play a dual role, consisting in the formation of a finely-dispersed sol in the cathode layer and in the screening of the more active centers on the cathode, as well as in shifting the equilibrium of the reaction  $\text{Ag}(\text{CN})_2^- + \text{CN}^- \rightleftharpoons \text{Ag}(\text{CN})_3^{2-}$  to the left. There are 29 references.

X

Authors' summary

[Abstracter's note: Complete translation]

Card 2/2

S/137/62/000/002/109.1  
A060/A101

AUTHORS: Bodnevas, A. I., Gal'dikene, O. K., Matulis, Yu. Yu.

TITLE: On the application of oscillographic methods in the study of cathodic processes during electrodeposition of metals

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 89, abstract 21612 ("Tr. AN LitSSR", 1961, B 2(25), 199 - 212, Lithuanian summary)

TEXT: A short description is given of certain auxiliary apparatus and attachments to mechanical and electronic oscillographs, designed at the Institute for Chemistry and Chemical Technology of the Academy of Sciences of the Lithuanian SSR. They have been successfully applied in the course of the last few years to the study of the mechanism of cathodic processes occurring during electrodeposition of metals.

Authors' summary

[Abstracter's note: Complete translation]

Card 1/1



MATULIS, Yu. Yu. [Matulis, J.]; MITSKUS, M. A. [Mickus, M.]; RAMANAUSKENE, D. K.  
[Ramanauskiene, D.]

Mechanism of processes occurring in the electroreduction of chromic acid. Liet ak darbai no.3:141-167 '61.

1. Institut khimii i khimicheskoy tekhnologii Akademii nauk Litovskoy SSR.

SHUBIN, N. A. [Subinas, N.]; MATULIS, Yu.Yu. [Matulis, J.]

Effect of casein on the cathodic polarization of zinc in zincate electrolytes. Liet ak darbai no.3:169-176 '61.

1. Predstavleno Institutom khimii i khimicheskoy tekhnologii Akademii nauk Litovskoy SSR.

SKOMINAS, V.Yu.; MATULIS, Yu.Yu. [Matulis, J.]

Stationary potentials of the corrosion of iron, chromium, and some of their alloys in sulfuric acid solutions not containing oxygen. Liet ak darbai B no.4:99-116 '61.

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

MOLCHADSKIY, A.M. [Molcadakis, A.]; MATULIS, Yu.Yu. [Matulis, J.]

Selecting more effective brightness for cyanide electrolytes  
for silver plating. Liet ak darbai B no.4:117-136 '61.

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy  
SSR.

KELDYSH, M.V.; PALLADIN, A.V.; KUPREVICH, V.F.; ABDULLAYEV, Kh.M.; SATPAYEV, K.I.; MUSKHELISHVILI, N.I.; MAMEDALIYEV, Yu.G.; MATULIS, Yu.Yu.; GROSUL, Ya.S.; PLAUDE, K.K.; KARAEYEV, K.K.; UMAROV, S.J.; AMBARTSUMYAN, V.A.; BATYROV, Sh.B.; EYKHFFEL'D, I.G. [Eichfeld, J.]

Comments by presidents. Nauka i zhizn' 28 no.10:2-17 0 '61.

(MIRA 15:1)

1. Prezident Akademii nauk SSSR (for Keldysh).
2. Prezident Akademii nauk Ukrainskoy SSR (for Palladin).
3. Prezident Akademii nauk Belorusskoy SSR (for Kuprevich).
4. Prezident Akademii nauk Uzbekskoy SSR (for Abdullayev).
5. Prezident Akademii nauk Kazakhskoy SSR (for Satpayev).
6. Prezident Akademii nauk Gruzinskoy SSR (for Muskhelishvili).
7. Prezident Akademii nauk Azerbaydzhanskoy SSR (for Mamedaliyev).
8. Prezident Akademii nauk Litovskoy SSR (for Matulis).
9. Prezident Akademii nauk Moldavskoy SSR (for Grosul).
10. Prezident Akademii nauk Latviyskoy SSR (for Plaude).
11. Prezident Akademii nauk Kirgizskoy SSR (for Karakeyev).
12. Prezident Akademii nauk Tadzhikskoy SSR (for Umarov).
13. Prezident Akademii nauk Armyskoy SSR (for Ambartsumyan).
14. Prezident Akademii nauk Turkmenskoy SSR (for Batyrov).
15. Prezident Akademii nauk Estonskoy SSR (for Eykhfel'd).

(Russia--Economic conditions) (Research)

MATULIS, YU.YU.

"Ein beitrag zur theorie der electrolitischen abscheidung des chroms aus chromsauroelsungen."

Report submitted to the Intl. Committee for Electrochemical thermodynamics and kinetics, Rome, Italy 24-29 Sep 1962

KICHAS, P.V.; MATULIS, Yu.Yu. [Matulis, J.]

Changes in the medium acidity which triggers the formation of nickel hydroxide sol due to some additions causing the improvement of the quality and brightness of nickel electro-deposits. Trudy AN Lit. SSR. Ser. B no.1:97-110 '62  
(MIRA 17:8)

Formation of colloids in the catholyte during the electrolysis of nickel sulfate solutions containing some additions. Ibid.: 111-127

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR. 2. President AN Litovskoy SSR, chlen-korrespondent AN SSSR, glavnyy redaktor zhurnala "Trudy AN Litovskoy SSR; seriya "B" (for Matulis).

VISHOMIRSKIS, R.M. [Visomirskis, R.M.; MOCHOMIRSKIY, A.M.; MATULIS, Yu.Yu.  
Matulis, J.]

Characteristic phenomena of polarization observed during electrodeposition of silver from cyanide electrolytes. *Trudy Akad. Nauk Ser. B* no.3:19-29, 1971.

1. Institut khimii i khimicheskoy tekhnologii Akad. Nauk Latv. SSR.



MITSKUS, M.A. [Mickus, M.]; MATULIS, Yu.Yu. [Matulis, J.]

Cathodic reduction of chromic acid on a carbon electrode. Trudy  
AN Lit. SSR Ser. B no.3:31-37 '62.

(MIRA 18:3)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

MATULIS, Yu. Yu. (Vil'nyus); BODNEVAS, A. I. (Vil'nyus)

Mechanism of the action of the additions of certain colloids in electrolytic cobalt precipitation. Rev chimie 7 no. 1: 327-339 '62.

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

BODNEVAS, A., red.; VISHOMIRSKIS, R.[Visomirskis, R.], red.;  
GAL'DIKENE, O.[Galdikiene, O.], red.; MATULIS, Yu.  
[Matulis, J.], red.; PETRAUSKAS, V., red.; KARVYALIS, V.  
[Karvelis, V.], tekhn. red.

[Theory and practice of bright electroplating] Teoriia  
i praktika blestiaschikh gal'van. pokrytii; osnovnye ma-  
terialy. Vilnius, Gos.izd-vo pol't. i nauchn. lit-ry  
Litovskoi SSR, 1963. 366 p. (MIRA 17:1)

1. Vsesoyuznoye soveshchaniye po teorii i praktike ble-  
styashchikh gal'vanopokrytii, Vilnius, 1962.

BODNEVAS, A.I.; MATULIS, Yu.Yu. [Matulis, J.]

Internal stresses in the electrodeposits of cobalt. Report No.2:  
Effect of additives on internal stresses. Trudy AN Lit. SSR. Ser.  
B no.2:9-21 '63. (MIRA 17:10)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

SLIZHIS, R.P. [Slizys, R.]; MATULIS, Yu.Yu. [Matulis, J.]

Stationary potentials of electrolytic nickel in sulfuric acid  
solutions saturated with hydrogen. Trudy AN Lit. SSSR. Ser.  
B no. 1:33-48 '63. (MIRA 17:5)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy  
SSR.

BODNEVAS, A.I.; MATULIS, Yu. Yu. [Matulis, J.]

Internal stresses of electrodeposits of cobalt. Report No. 1:  
Effect of pH electrolyte, current density and the layer thickness  
of the deposits on internal stresses. Trudy AN Lit.SSSR.Ser.  
B. no. 1:49-60 '63. (MIRA 17:5)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

GAI'DIKENE, G.K. [Gaidikene, G.K.]; MATVI, S. Yu.Yu. [Matviia, S.Yu.]; ALAUNE, Z.B.

Electrochemical transformations of organic substances in the process of electrodeposition of metals. Paper No. 1. Stability of the sodium salt of 2,7-naphthalenedisulfonic acid in aqueous electrodeposition. Izvy AN Lit. SSR, Ser. B no. 33-47, 1963.

(MIRA 17:00)

1. Institut khimicheskoy tekhnologii AN Litovskoy SSR.

**MATULIS, Yu.Yu.**

**Electrodeposition of bright protective and decorative  
coatings. Zhur. VIKHO 8 no.5:482-493 '63. (MIRA 17:1)**

**1. Chlen-korrespondent AN SSSR.**



SLIZHIS, R.P. [Slizus, R.]; MATULIS, Yu.Ye. [Matulis, J.]

Processes occurring in the boundary layer of the NiSO<sub>4</sub> solution with a nonpolarized nickel electrode and a nickel electrode subjected to cathodic polarization. Study AN Lit. Chem. Ser. B. no.1:45-55 '64 (M. S. A. 1964)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

ACCESSION NR: AP4031107

S/0236/64/000/001/0057/0072

AUTHOR: Matulis, Yu. Yu.; Mitskus, M. A.

TITLE: Chromeplating theory and its application to tetrachromate electrolytes

SOURCE: AN LitSSR. Trudy\*. Seriya B, no. 1, 1964, 57-72

TOPIC TAGS: tetrachromate electrolyte, chromium plating, chrome plating, chromic acid, chromium hydroxide, chromium deposition, cathode film

ABSTRACT: The central problem of chrome plating lies in the cathode film, its structure, physico-chemical properties and its role in the deposition of the metal. Since the above questions and the role of alien ion catalysts, and of the composition of the electrolyte are still unknown, the authors undertook this study and analyzed their experimental data concerning the interaction of chromic acid with cathodes and trivalent chromium hydroxide in tetrachromate electrolytes. It was found that two types of films are formed on the cathode. (1) The films which were formed primary, due to the interaction of chromic acid with the cathode metal prior to electrolysis, were very thin and electronically conductive and basically consisted of metal oxides used as cathodes. (2) A secondary film

Card 1/3

ACCESSION NR: AP4031107

developed on the cathode when hydrogen began to form, which remained stationary during the normal chromium deposition process. The secondary film was a thousand times thicker than the primary film and consisted of trivalent chromium hydroxide, chromic acid anions and foreign anions from the catalyst. The secondary film is not only the regulator of the electrochemical reaction of chromium deposition but also the medium where extremely complex physico-chemical processes of metal deposition take place. There is no difference in principle between the conventional and the tetrachromate electrolytes of which the latter may be considered as an usual chromic acid solution where a portion of the equivalents is neutralized by sodium hydroxide and has a heightened buffering capacity. However, chromium deposited from them is softer and more malleable. With the only exception of brilliant surfaces it is as brittle as conventionally plated chromium. Orig. art. has: 6 figures, 7 formulas, no tables.

ASSOCIATION: Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR (Institute of Chemistry and Chemical Engineering, AN Lithuanian SSR)

Card 2/3

ACCESSION NR: AP4031107

SUBMITTED: 06May63

SUB CODE: GC

DATE ACQ: 29Apr64

NO REF SOV: 016

ENCL: 00

OTHER: 006

Card 3/3